Nebraska IT Commission Community Technology Fund 2001 Application

Section I: General Information

A. Project Title: Dundy County Hospital Creation and implementation of an enterprise Intranet

Name of Submitting Entity: Dundy County Hospital

Project Contact Information:

Mr. Michael Anaya, Sr., FACHE
Chief Executive Officer
Dundy County Hospital
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B. Certification for Request

I certify that to the best of my knowledge the information in this application is correct and that the application has been authorized by this entity to meet the obligations set forth in this application.

Authorized Signature: _____

Typed Name: Michael A. Anaya, Sr.

Title: Chief Executive Officer

Name of Entity: Dundy County Hospital

Date: January 19, 2001

Total State Funds Requested: $25,000.00

Section II: Executive Summary

Dundy County Hospital is initiating an enterprise wide technology project and desires to venture into a process of leveraging information systems to enhance healthcare delivery and efficiently refine healthcare processes.

The present technology base is almost non-existent and present systems are archaic and/or inflexible. Replacing peer to peer systems and building an IT infrastructure to move into the 21st century is drastically needed for this rural healthcare organization. Formalizing and funding this technology initiative will impressively shape and enhance the delivery of care while reducing administrative costs.

Section III: Goals and Objectives

Dundy County Hospital's objective is to develop and implement an enterprise wide technology program to facilitate communication amongst health system networks, leveraging technology and providing a means for disseminating proprietary information internally (not for public view) and provide access to population health programs for public view. By establishing this infrastructure Dundy County Hospital would be improving efficiency and effectiveness via reduction of labor intensive administrative costs and man-hours. As with all information regarding healthcare, Dundy County Hospital (DCH) will be dealing with highly confidential and proprietary information and the utmost care should be taken from a security standpoint. Establishing a technology program would

dramatically increase and expand internal and external healthcare educational training opportunities especially governmentally mandated continuing medical/training education requirements.

Objectives are listed in the following section. Upon approval of IT grant, firms will be requested to submit per objective or as all-inclusive packages, which will encourage competitive bids on implementation, services and support. Dundy County Hospital reserves the right to refuse all proposals. While pricing is important, scalability, level of functionality and speed/ease of implementation are prime considerations. Dundy is most interested in plug and play technology with minimal custom programming. Ideally, Dundy is looking for an "Intranet in a box" for rapid deployment to our staff. All proposals must include onsite testing prior to enterprise wide deployment; training of Dundy Web staff in administration of all technology; and information regarding ongoing support options.

Dundy County Hospital has never established a comprehensive technology plan and this project is the foundation in the formation of a plan.

The incentives in development of Dundy County Hospital's technology project were founded on the NITC goals and priorities.

Section IV: Scope and Objectives

1. The beneficiaries of this project are the staff (Physicians, Nurses, ancillary support staff, administration, etc.), and the population served.
2. The expected outcome of this project is; a technology architecture and infrastructure that will support and leverage healthcare information processes and cultivate an environment that will significantly impact the community served.
3. Measurement and assessment methods that will verify project outcomes: Statistical analysis on current process flow of information vice technology based process flow, man-hours, present quality assurance processes, corporate compliance initiatives and risk assessments.
4. Significant constraints of the project will primarily be lack of funding. Presently Dundy County Hospital does not have the funding base nor have they budgeted for a program prior to my arrival five weeks ago. Neither the vision nor the desire to change present operating methodology has ever been viewed as a necessity in today's operating environment.
5. Significant assumptions relating to project: Establishing contact with an outside Technology firm to assist Dundy County Hospital in project development through completion.

Section V: Project Justification

1. Cost/Benefit and Life Cycle costs. The benefit and return on investment is monetary, as well as, non-monetary. Cost per user is approximately 3k per desktop x 10 required stations = 30k. Recouped costs in excess of 18k per year in reduced overtime, increased productivity and performance, in addition to quickly taking advantage of advancing technology and streamlining current business processes that will grow with organizational growth. Present peer to peer systems will be tied into proposed organizational network.

2. Dundy County Hospital is in dire need of technology reform. Waiting times and other patient service areas have failed to respond to customer's needs based on inadequate funding of an IT system which has been fragmented. Access to IT services infrastructure has been hindered by low income and diverse rural geography, as well as, there has been virtually no public consultation or opportunity for local involvement in healthcare information systems. Information system architecture with a health system backbone will definitely impact patient care, increase customer service and capabilities from archaic early 20th century business approaches to 21st century based healthcare informatics and technology advanced involvement.

3. The new IT system will definitely impact ongoing healthcare delivery and administrative processes today and into the future. Short term and long term impact is considerable via streamlining policy and procedure processes (implementation to written completion), increasing quality control and assurance processes via IT data warehousing, staff shifting and resource sharing, while decreasing waste and abuse.

4. A project of a smaller scope would place this organization in present operating mode of procuring peer to peer systems that would, nevertheless, require procurement of required servers, networking, etc., in a piece meal fashion that would slowly and ineffectively populate hospital with inadequate IT infrastructure and support. This is an unacceptable alternative. Development of an integrated information culture within this organization will enable this hospital to promote the use of a more cost-effective communication vehicle.

5. The Dundy County Hospital IT project will benefit via compliance with the Health Insurance Portability and Accountability Act (HIPAA) of 1996 electronic transaction standards released last August. The HIPAA Act is designed to reduce healthcare costs by applying electronic data interchange (EDI) technology and national healthcare transmission standards. There is a definite requirement to achieve healthcare administrative simplification and promote the use of EDI technology. Recouped costs in excess of 18k per year in reduced overtime, increased productivity and performance, in addition to quickly taking advantage of advancing technology and streamlining current business processes that will grow with organizational growth.

Section VI: Implementation

1. Project sponsor and stakeholder acceptance analysis. Dundy County Hospital and the Dundy County Hospital, Board of Directors are very supportive of this IT project endeavor and view the need of an automated and clinical information system as a very significant requirement in providing quality and accessible healthcare. The board would like to have this hospital viewed literally as, state-of-the-art.

2. Define roles, responsibilities, and required experience of the project team;

Technology Coordinator: Mr. Michael Anaya, Sr., FACHE

Mr. Anaya is currently the CEO of Dundy County Hospital. The tasks required of this project would require him to have full time oversight of project (implementation through completion). Mr. Anaya will coordinate installation of software and hardware, troubleshoot problems, ensure preparation of equipment for training, and provide information management assistance for all 80-hospital staff members. Mr. Anaya will attend training on web host server management and hire an IT coordinator to act as CIO for ongoing IT programs.

- Oversee the project.
- Develop clear policies on Internet usage and web content.
- Monitor web content
- Compile survey results with each of three surveys
- Compile time logs from project volunteers for documentation to support the in-kind match.

2 Directors and 10 Department Heads

Attend training and fulfill the objectives of the project. Participate in a collaborative group of executive management to support organizational IT objectives.

Project Consultant; Ms. Michelle Pursely
Ms. Pursely is a consultant with Health Management Inc, consultants. A licensed practical nurse, former technology trainer, a systems and project management, Ms. Pursely has performed many consulting projects for this organization and has experience in managing and organizing technology projects. Ms. Pursely will set up and coordinate all project activities and objectives,

facilitate the process to acquire training services, schedule training, recruit web parents, facilitate online publication of healthcare communication of project events and activities.

2. List the major milestones and deliverables for each milestone;

Milestone: Award of Grant.

June
Immediately solicit healthcare IT contractors for software programs and ensure hardware compatibility.
Initiate specifications for implementation, installation, training, etc.
Determine method acquisition.
Plan system implementation tasks for project launch
Procure necessary equipment (desktops (PCs), hardware) and identify healthcare IT contractor for install of software services.
Provide server training to technology coordinator.
Complete acquisition of training services.
Complete system implementation tasks for project implementation and install.
Administration has completed development of clear policies on Internet usage and web content.
Complete training schedule for in-service training of staff members.

Milestone: Launch
July
Install hardware and complete network installation.
Download software and provide appropriate training on servers and NT project.
Ensure compliance and seamless transition of present system information cross-walked into new IT network.
Review training and monitor IT compliance and functionality of present and projected programs.
Begins plans for the online HIPAA EDI commerce project.

Milestone: Project Midpoint
August
IT assessment and review.
Continue orientation of product software and varying stages of maturation.

Milestone: Project Completion
November

4. Training and staff development requirements and procedures;
The Healthcare Information System contractor is expected to train all staff members at various levels and based on required access functionality. Because of the size of this training group it is expected that we will break this training into two sets. The contractor will provide for these training services. The contract will also be expected to provide course curriculum study materials.
Ideally we would like this training performed at our site, and we would like the two levels of training (beginning and intermediate) broken down into (3) 2-2 ½ hour session each, with the last session being a review session.

Contractor will also provide a training session to the technical coordinator on managing a web host server.

6. Maintenance and on-going support requirements, plans and provisions.

BWTelcom will perform maintenance and upgrades to the web server on a monthly basis. BWTelcom provides tele-communications support on minor problems. DCH has proposed to sign a contract for LAN server and web server maintenance with BWTelcom covering the period July 1 2001 to June 30 2002.

After the first year of use Healthcare Information Software Company technical support of healthcare informatics software the hospital will keep support contract current in order to assure the continuity of information system programs and access of service.

Section VII: Technical Impact

Describe how the project enhances, changes or replaces present technology systems, or if new systems are being added. The narrative should address the following:

This project will replace aging and archaic information systems. Dundy Physical Network Infrastructure Profile (current):

- 19 workstations on weak peer to peer network
- 14 printers of various capacity; 5 presently networked
- Connection via TCP/IP to a UNIX based server for billing and patient software
- Current UNIX software provided by Nelson Data Resources and Business Resources (VERYSS)
- Workstations share files and printers on peer to peer basis using IPX/SPX
- Workstations in-house, w/ zero remote functionality in clinic settings
- Zero automation and zero connectivity w/ two outlying clinics

1. Describe the hardware, software, and communications requirements for this project. Describe the strength and weaknesses of the proposed solution;
Central site hardware and software:

The preferred technical environment is Windows NT with primarily Compaq Proliant 3500-6500 Servers and PCs running Microsoft Office 2000 and Windows 95-98. However, we will consider recommendations of hardware, software and communications that will be compatible with our current environment. Existing/preferred standards:

Platform: NT (Preferred)
Web server: Microsoft IIS (Preferred), Webserver to manage Internet activities: Pentium III 450 or greater, 128 or greater MB RAM, 17/40 CD-ROM Drive, 17 inch monitor, Ethernet cards, Windows NT
Web Browser: Internet Explorer 4.0
Firewall Software: CheckPoint 1
Desktop Configuration: Minimum standard is 500Mhz Pentium III processors with 512Mb of RAM and 2.1Gb hard drives, 104 Key Keyboard, 17/40 CD-ROM Drive, Poweredge 32 MB expandable RAID Controller, 17 inch monitor, 2 - 100 TP Ethernet cards, Windows NT Server software.
Health Information System: *McKesson HBOC-Star*
Enterprise Resources Package: Lawson Insight
Laboratory System: ALG, Tamtron, MDP

- Dataserver: Two 500 MHz Pentium III processors, 512 cache, 512 MB RAM,

Individual Site hardware and software:

- Staff workstations: Pentium III 450, or greater, keyboard, monitor, mouse, Ethernet cards

The strength of this solution is twofold: One, all systems are migrating from an obsolete text-based environment to a Windows environment. Windows has become the standard computer interface; it is understood and used by a large portion of our patrons, and is easily taught to those just starting out. Two, Windows NT allows for system management to be conducted from the central site and "ported" to all remote workstations. All system administration, including daily backups, will be maintained at the central site for all member libraries. Windows NT is reliable, expandable and easily upgraded. The reliability of and Intranet and the Internet is our main concern.

2. Rationale for determining the selection and appropriateness of the proposed technology components compared to the needs of the users; Windows has become the standard computer interface; it is understood and used by a large portion of our patrons, and is easily

taught to those just starting out. Two Windows NT allows for system management to be conducted from the central site and "ported" to all remote workstations.

3. Address issues pertaining to reliability, security and scalability (future needs for growth or adaptation);
Windows NT is highly reliable. It is the accepted standard for networking solutions around the world. There is no impediment with the software for future growth of this project. As the demands of the system grow, the consortium can easily expand the hardware to accommodate the growth of the database. As new sites are added to the project, the vendor will manage all licensing details.
Firewall software will be installed on the server at the central site.

4. Appropriateness of the key technologies to the State Technology Plan requirements regarding technical standards, guidelines and compatibility:
Not Applicable

5. Compatibility with existing institutional and/or statewide infrastructure:
This is a model project. We see this as the future of rural health information systems. Our goal is to develop southwestern Nebraska's healthcare information base through leveraging of technology.

Section VIII: Risk Assessment

1. Describe the risk assessment which has been performed on this project;
This project has been assessed and implemented by numerous other healthcare institutions throughout the nation. All healthcare processes have been reviewed to forecast what areas of potential failure exist, and how the failure of that component of the project would affect the overall success of healthcare processes and technology implementation.

2. **List the identified risks, and relative importance of each;** *(All areas identified are annotated and combined with #3 below).*

3. Identify strategies, which have been developed to minimize risks;

- Equipment failure or malfunction; High importance. Project objectives cannot be achieved with non-functioning equipment. To insure rapid response to remedy equipment failures, the school's technology coordinator will be brought to a full time position for this year. This staff position will be responsible for responding to equipment failures and rapidly pursuing corrective measures.
- Technical assistance; help desk services; Medium importance. The project participants will need assistance during implementation and initial phases of operation.

4. Impact if project is not completed as proposed.
Dundy County Hospital's chance to achieve technological growth would be stunted. Critical mass implementations of healthcare organizations nationwide have been poised by leveraging technology and enhancing healthcare delivery and/or services.

Section IX: Financial Analysis and Budget

Activity	CTF Grant	Cash Match	In-Kind Match	Other	Total
Personnel					
Contractual Services					
• Design					0
• Programming and Testing					0

• Project management, evaluation, and quality assurance			$4,000		
• Other					
Capital Expenditures					
• Hardware	$20,000	$4,000			$16,000
• Software	$10,000	$2,000			$ 8,000
• Network Costs	$8,000	$3,000			$ 5,000
• Other	$3,000	$1,000			$ 2,000
Other Costs					
Telecommunications	$1750				$ 1,750
Supplies and materials	$1200				$ 1,200
Other operating					
Travel					
TOTAL	$43,950	$10,000			$33,950

Contractual services	
Based on Contracted Healthcare IT corporation Software costs, training, administrative costs are all inclusive.	

Budget Justification:

Contractual Services. The costs of contractual services include the costs of a data collection, migration from present system to new system, network installation, tele-communication patches and consulting team.

Attachment A

Dundy Hospital: Is a regional tertiary center licensed for 17 beds. It is the primary referral hospital for a county region in southwest Nebraska extending from North Platte in the north to McCook area in the east. Though, Dundy offers a comprehensive range of acute care services, it specializes in neurology, cardiology, oncology, trauma, rehabilitation, obstetrics, pediatrics, and orthopedics. Dundy operates 2 surgical suites. The hospital experiences approximately 362 admissions, together with about 9962 outpatient and 593 emergency department visits each year and is currently in process of establishing Tele-medicine and Tele-radiology to deliver quality healthcare services in a rural environment.

Project Partners:

We have attempted to explore project partners in our endeavor to create a technology-based environment that will undoubtedly support our commitment to providing quality healthcare and enable us to be more patient centered. However, our rural environment does not provide us with such interaction. It is at this time, that we are without project partners and are venturing into this project as the principal entity.